

-2-

Serial No. 09/376,651
Docket No. JA9-98-073
Firm No. 0036.0066

Listing of Claims

1. (Cancelled)

2. (Currently Amended) A medium feeding apparatus comprising:
at least one align roller to align a medium in a path, wherein the medium is positioned in a plane defined by a first axis and a second axis, wherein the align roller is positioned below the medium and is driven to transport the medium in the path along the second axis; and
a feed assistance member comprising:
(i) a shaft; and
(ii) a feed assistance roller rotably mounted to the shaft and positioned to apply pressure on the medium in the path to stabilize the medium while the medium is being aligned in the path by the at least one align roller, wherein the feed assistance member is not rotably connected to the align roller, and wherein the feed assistance member and the at least one align roller are offset with respect to the second axis and wherein the feed assistance member and one align roller both rotate along the second axis is not vertically aligned with any roller.

3. (Currently Amended) A medium feeding apparatus, wherein the medium is positioned in a plane defined by a first axis and a second axis, comprising:
at least one ~~vertical~~ second axis align roller to align the medium along the ~~in the vertical direction~~ second axis;
a ~~lateral~~ first axis align roller to align the medium along the first axis ~~in the lateral direction~~; and
a feed assistance member comprising:
(i) a shaft; and
(ii) a feed assistance roller rotably mounted to the shaft and positioned to apply pressure on the medium in the path to stabilize the medium while the medium is being aligned in the path by the at least one second axis align roller, wherein the feed assistance

-3-

Serial No. 09/376,651
Docket No. JA9-98-073
Firm No. 0036.0066

member is not rotably connected to the align roller rollers, wherein the feed assistance roller member and the at least one second axis align roller are offset with respect to the second axis ~~is not vertically aligned with any roller~~, and wherein the feed assistance member is mounted between one lateral first axis align roller and one second axis vertical align roller.

4. (Previously Presented) The medium feeding apparatus of claim 2, wherein the align rollers have a non-circular cross section for feeding the medium.

5. (Currently Amended) The medium feeding apparatus of claim 3, wherein the feed assistance member is aligned ~~in the vertical direction~~ along the second axis with respect to medium movement.

6. (Previously Presented) The medium feeding apparatus of claim 2, wherein the feed assistance member further comprises:
two brackets including open grooves, wherein the shaft is disposed in the grooves of the bracket.

7. (Previously Presented) The medium feeding apparatus of claim 2, wherein the total weight of the feed assistance roller is applied onto the medium.

8. (Currently Amended) The medium feeding apparatus of claim 6, ~~wherein the feed assistance member further comprises~~ comprising a spring for urging the feed assistance roller onto the medium.

9. (Previously Presented) The medium feeding apparatus of claim 6, wherein the medium is paper.

-4-

Serial No. 09/376,651
Docket No. JA9-98-073
Firm No. 0036.0066

10. (Currently Amended) A medium processing device including a medium feeding apparatus to feed the medium through a feed path in the processing device, wherein the medium is positioned in a plane defined by a first axis and a second axis, and wherein the medium feeding apparatus comprises:

at least one align roller to align a medium in a path, wherein the align roller is positioned below the medium and is driven to transport the medium in the path along the second axis; and a feed assistance member comprising:

(i) a shaft; and

(ii) a feed assistance roller rotably mounted to the shaft and positioned to apply pressure on the medium in the path to stabilize the medium while the medium is being aligned in the path by the at least one align roller, wherein the feed assistance member is not rotably connected to the align roller, and wherein the feed assistance roller and the at least one align roller are offset with respect to the second axis and wherein the feed assistance roller and one align roller both rotate along the second axis is not vertically aligned with any roller.

11. (Previously Presented) The medium processing device of claim 10, wherein the processing device comprises a printer and the medium comprises paper.

12. (Currently Amended) A medium processing device including a medium feeding apparatus to feed the medium through a feed path in the processing device, wherein the medium is positioned in a plane defined by a first axis and a second axis, and wherein the medium feeding apparatus comprises:

at least one ~~vertical~~ second axis align roller to align the medium in the ~~vertical direction~~ along the second axis;

a ~~lateral~~ first axis align roller to align the medium along the first axis in the ~~lateral~~ direction;

a feed assistance member comprising:

-5-

Serial No. 09/376,651
Docket No. JA9-98-073
Firm No. 0036.0066

(i) a shaft; and

(ii) a feed assistance roller rotably mounted to the shaft and positioned to apply pressure on the medium in the path to stabilize the medium while the medium is being aligned in the path by the at least one second axis align roller, wherein the feed assistance member is not rotably connected to the at least one second axis align roller, wherein the feed assistance roller and the at least one second axis align roller are offset with respect to the second axis is not vertically aligned with any roller, and wherein the feed assistance member is mounted between one lateral first axis align roller and one vertical second axis align roller.

13. (Previously Presented) The medium processing device of claim 10, wherein the align rollers have a non-circular cross section for feeding the medium.

14. (Currently Amended) The medium processing device of claim 12, wherein the feed assistance member is aligned along the second axis in the vertical direction with respect to medium movement.

15. (Previously Presented) The medium processing device of claim 10, wherein the feed assistance member further comprises
two brackets including open grooves, wherein the shaft is disposed in the grooves of the bracket.

16. (Previously Presented) The medium processing device of claim 10, wherein the total weight of the feed assistance roller is applied onto the medium.

17. (Currently Amended) The medium processing device of claim 15, wherein the ~~medium feeding apparatus~~ further comprises comprising a spring for urging the feed assistance roller onto the medium.

-6-

Serial No. 09/376,651
Docket No. JA9-98-073
Firm No. 0036.0066

18. (Currently Amended) A feed assistance apparatus for feeding a medium in a medium processing apparatus, comprising:

at least one align roller for feeding the medium, wherein the medium is positioned in a plane defined by a first axis and a second axis, and wherein the align roller is positioned below the medium and is driven to transport the medium in the path along the second axis;

a member portion contacting said medium being fed to increase a frictional force generated on the medium while the medium is being aligned in the path by the at least one align roller;

wherein the member portion is not rotably connected to the align roller, and wherein the member portion and the at least one align roller are offset with respect to the second axis and wherein the member portion and one align roller both rotate along the second axis is not vertically aligned with any roller.

19. (Currently Amended) A feed assistance apparatus for feeding a medium in a medium processing apparatus, comprising:

at least one align roller for feeding the medium, wherein the medium is positioned in a plane defined by a first axis and a second axis and transported along the second axis;

a member portion contacting said medium being fed to increase a frictional force generated on the medium while the medium is being aligned in the path by the at least one align roller;

wherein the member portion is not rotably connected to the align roller, and wherein the member portion and the at least one align roller are offset with respect to the second axis, is not vertically aligned with any roller, and wherein the member portion is non-rotatable.

20. (Previously Presented) The feed assistance apparatus of claim 18, further comprising a shaft portion supported in a bracket and disposed through said member portion, wherein the member portion rotates around said shaft portion so as to move by a force from said

-7-

Serial No. 09/376,651
Docket No. JA9-98-073
Firm No. 0036.0066

medium, wherein the shaft portion is not rotably connected to the align roller.

21. (Currently Amended) A feed assistance apparatus for feeding a medium in a medium processing apparatus, wherein the medium is positioned in a plane defined by a first axis and a second axis, comprising:

at least one ~~vertical~~ second axis align roller to align the medium ~~in the vertical direction~~ along the second axis;

a lateral first axis align roller to align the medium ~~in the lateral direction~~ along the first axis;

a member portion contacting said medium being fed to increase a frictional force generated on the medium while the medium is being aligned in the path by the at least one align roller; and

wherein the member portion is not rotably connected to the align ~~rollers~~ roller, and wherein the member portion and the at least one second axis align roller are offset with respect to the second axis is not vertically aligned with any roller, and wherein the member portion is mounted between one lateral first axis align roller and one ~~vertical~~ second axis align roller.

22. (Currently Amended) The feed assistance apparatus of claim 18, wherein at least one align rollers have roller has a non-circular cross section for feeding the medium.

23. (Currently Amended) The feed assistance apparatus of claim 18, wherein the member portion is aligned ~~in the vertical direction~~ along the second axis with respect to medium movement.

24. (Previously Presented) The feed assistance apparatus of claim 18, wherein the medium is paper.

-8-

Serial No. 09/376,651
Docket No. JA9-98-073
Firm No. 0036.0066

25. (Previously Presented) The feed assistance apparatus of claim 18, wherein the member portion does not contact any align roller when the medium is not contacting the member portion.

26. (Currently Amended) The feed assistance apparatus of claim 21, wherein the at least one vertical align roller comprises two ~~vertical~~ second axis align rollers, and wherein the feed assistance roller is further mounted between the two ~~vertical~~ second axis align rollers.

27. (Previously Presented) The medium feeding apparatus of claim 2, wherein the feed assistance roller does not contact any align roller when the medium is not positioned in the path.

28. (Currently Amended) The medium feeding apparatus of claim 3, wherein the at least one vertical align roller comprises two ~~vertical~~ second axis align rollers, and wherein the feed assistance roller is further mounted between the two ~~vertical~~ second axis align rollers.

29. (Previously Presented) The feed assistance apparatus of claim 18, wherein the member portion does not contact any align roller when the medium is not positioned in the path.

30. (Previously Presented) The medium processing device of claim 10, wherein the feed assistance roller does not contact any align roller when the medium is not positioned in the path.

31. (Currently Amended) The medium processing device of claim 12, wherein the at least one ~~vertical~~ second axis align roller comprises two ~~vertical~~ second axis align rollers, and wherein the feed assistance roller is further mounted between the two ~~vertical~~ second axis align rollers.

-9-

Serial No. 09/376,651
Docket No. JA9-98-073
Firm No. 0036.0066

32. (Currently Amended) The medium feeding apparatus of claim 2, ~~wherein the align roller aligns the medium in a substantially horizontal path, and wherein the feed assistance member and align rollers contact the medium while the medium is moving~~ along the second axis in the substantially horizontal path.

33. (Previously Presented) The medium feeding apparatus of claim 2, wherein the feed assistance member rotates and applies pressure to the medium in response to contacting the medium being moved by the align roller.

34. (Currently Amended) The medium processing device of claim 10, ~~wherein the align roller aligns the medium in a substantially horizontal path, and wherein the feed assistance member and align rollers contact the medium while the medium is moving~~ along the second axis in the substantially horizontal path.

35. (Previously Presented) The medium processing device of claim 10, wherein the feed assistance member rotates and applies pressure to the medium in response to contacting the medium being moved by the align roller.

36. (Currently Amended) The feed assistance apparatus of claim 18, ~~wherein the align roller aligns the medium in a substantially horizontal path, and wherein the feed assistance member and align rollers contact the medium while the medium is moving~~ along the second axis in the substantially horizontal path.

37. (Previously Presented) The feed assistance apparatus of claim 18, wherein the feed assistance member rotates and applies pressure to the medium in response to contacting the medium being moved by the align roller.

-10-

Serial No. 09/376,651
Docket No. JA9-98-073
Firm No. 0036.0066

38. (Currently Amended) A medium feeding apparatus comprising:
at least one align roller to align a medium in a path, wherein the medium is positioned in a plane defined by a first axis and a second axis and transported along the second axis; and
a feed assistance member comprising:
- (i) a shaft; and
 - (ii) ~~a feed assistance roller rotably mounted~~ a member mounted to the shaft and positioned to apply pressure on the medium in the path to stabilize the medium while the medium is being aligned in the path by the at least one align roller, ~~wherein the feed assistance member is not rotably connected to the align roller,~~ wherein the feed assistance roller member and the at least one align roller are offset with respect to the second axis, is not vertically aligned with any roller, and wherein the member portion is non-rotatable.